

April 10, 2019

Linh Kieu  
Bureau of Safe Drinking Water  
Nevada Division of Environmental Protection  
901 South Stewart, Suite 4001  
Carson City, NV 89701

Dear Mr. Kieu,

Enclosed you will find the Water Treatment and Water Distribution Summary Reports for the certification examinations that took place on March 14, 2019 at various sites throughout the State.

The individual results have been sent in a separate email to you and Max Sosa. Should you have any questions or need further information, please contact me at 909.291.2100 or by email [genriquez@ca-nv-awwa.org](mailto:genriquez@ca-nv-awwa.org). You are also welcome to contact Steven Garner, Certification Manager at 916.889.8465 or by email [sgarner@ca-nv-awwa.org](mailto:sgarner@ca-nv-awwa.org).

Sincerely,



Gina Enriquez  
Certification Specialist  
CA-NV AWWA

cc: Max Sosa  
Rachel Weingart  
Yan Zhang  
Will Raymond  
Steven Garner

## **Examination Summary Reports**

### **March 2019 Examinations**

Prepared for  
Bureau of Safe Drinking Water, Nevada Division of Environmental Protection

Prepared By  
California – Nevada Section of the American Water Works Association  
April 10, 2019

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## Overall Exam Results

### Exam Analysis Pass/Failure Rate

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#### Water Distribution - Entire State:

44 Passed the Exam  
29 Failed the Exam

#### Water Treatment - Entire State:

19 Passed the Exam  
15 Failed the Exam

#### By Region:

##### Northern NV: 53 Testers

Passing Rate of 56%  
Failure Rate of 44%

##### Southern NV: 20 Testers

Passing Rate of 70%  
Failure Rate of 30%

#### By Region:

##### Northern NV: 22 Testers

Passing Rate of 55%  
Failure Rate of 45%

##### Southern NV: 12 Testers

Passing Rate of 58%  
Failure Rate of 42%

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## Analysis Pass/Failure Rate

### by Grade Level/Discipline

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#### Water Distribution - Entire State:

44 Passed the Exam  
29 Failed the Exam

#### Water Treatment - Entire State:

19 Passed the Exam  
15 Failed the Exam

#### By Discipline Pass/Failure:

##### Distribution Grade 1 (D1)

32 Passed  
10 Failed

##### Distribution Grade 2 (D2)

07 Passed  
14 Failed

##### Distribution Grade 3 (D3)

04 Passed  
02 Failed

##### Distribution Grade 4 (D4)

01 Passed  
03 Failed

#### By Discipline Pass/Failure:

##### Treatment Grade 1 (T1)

11 Passed  
08 Failed

##### Treatment Grade 2 (T2)

02 Passed  
01 Failed

##### Treatment Grade 3 (T3)

05 Passed  
02 Failed

##### Treatment Grade 4 (T4)

01 Passed  
04 Failed

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## **DISTRIBUTION OPERATOR CERTIFICATION**

The Topics Identified Below Had a "Partial Mastering" Rate of More Than 20%

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### **Grade I – Distribution**

- Install Equipment
- Perform Maintenance
- Perform Security, Safety & Admin
- Operate Equipment
- System Information/Components

### **Grade II – Distribution**

- Perform Security, Safety & Admin
- Monitor, Evaluate & Adjust Disinfection
- System Information / Components
- Install Equipment
- Perform Maintenance
- Operate Equipment
- Laboratory Analysis

### **Grade III – Distribution**

- Install Equipment
- Perform Maintenance
- Perform Security, Safety & Admin
- System Information / Components

### **Grade IV – Distribution**

- Install Equipment
- Perform Maintenance
- Laboratory Analysis
- Operate Equipment
- Monitor, Evaluate & Adjust Disinfection

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## **Treatment Operator Certification**

The Topics Identified Below Had a "Partial Mastering" Rate of More Than 20%

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### **Grade I – Treatment**

- Laboratory Analyses
- Perform Security, Safety, & Administration
- Monitor, Evaluate & Adjust Treatment
- Comply w/Drinking Water Regs
- Operate & Maintain Equipment
- Evaluate Characteristics of Source Water

### **Grade II – Treatment**

- Laboratory Analyses
- Monitor, Evaluate & Adjust Treatment

### **Grade III – Treatment**

- Evaluate Characteristics of Source Water
- Monitor, Evaluate & Adjust Treatment
- Laboratory Analyses
- Operate & Maintain Equipment

### **Grade IV – Treatment**

- Operate & Maintain Equipment
- Monitor, Evaluate & Adjust Treatment
- Laboratory Analyses
- Perform Security, Safety, & Administration
- Comply w/Drinking Water Regs

**MASTERY SUMMARY REPORT**  
for ABC Water Distribution Class I

Test Name: ABC1264D

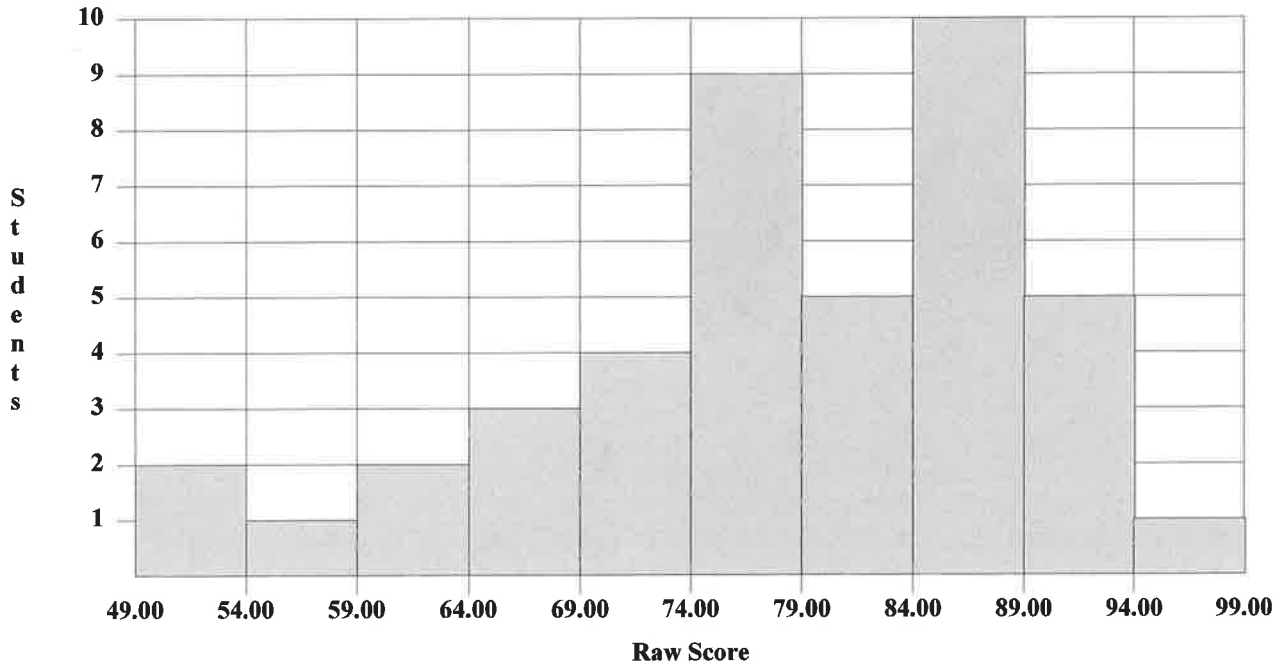
Test version: 0

Scoring Date: 3/22/2019

# of Students: 42

# M	Number Mastering	% M	% Mastering	PTS	Possible Points					
# PM	Number Partial Mastering	% PM	% Partial Mastering	HIGH	Highest Points					
# NM	Number Not Mastering	% NM	% Not Mastering	LOW	Lowest Points					
				AVG	Average Points					
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	30	12	0	71.43	28.57	0.00	16.00	16.00	7.00	12.67
Install Equipment	20	16	6	47.62	38.10	14.29	5.00	5.00	1.00	3.12
Perform Maintenance	24	17	1	57.14	40.48	2.38	20.00	19.00	7.00	14.31
Monitor, Eval, & Adjust Disinfection	35	6	1	83.33	14.29	2.38	11.00	11.00	3.00	8.69
Operate Equipment	31	11	0	73.81	26.19	0.00	18.00	17.00	8.00	13.74
System Information/Components	32	10	0	76.19	23.81	0.00	9.00	9.00	5.00	7.64
Laboratory Analysis	36	5	1	85.71	11.90	2.38	21.00	21.00	8.00	17.10

**TEST STATISTICS REPORT**  
**ABC Water Distribution Class I Exam**  
**ABC1264D**



<b>Test Name:</b>	<b>ABC1264D</b>	
<b>Test Date:</b>	<b>10/12/2012</b>	
<b>Number of Examinees:</b>	<b>42</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>94.00</b>	<b>(94.00)</b>
<b>Lowest Score:</b>	<b>49.00</b>	<b>(49.00)</b>
<b>Median:</b>	<b>79.00</b>	<b>(79.00)</b>
<b>Mean:</b>	<b>77.26</b>	<b>(77.26)</b>
<b>Standard Deviation:</b>	<b>11.18</b>	
<b>Test Reliability:</b>	<b>0.88</b>	
<b>Standard Error of Measurement:</b>	<b>3.82</b>	



**MASTERY SUMMARY REPORT**  
for ABC Water Distribution Class II

Test Name: ABC1017D

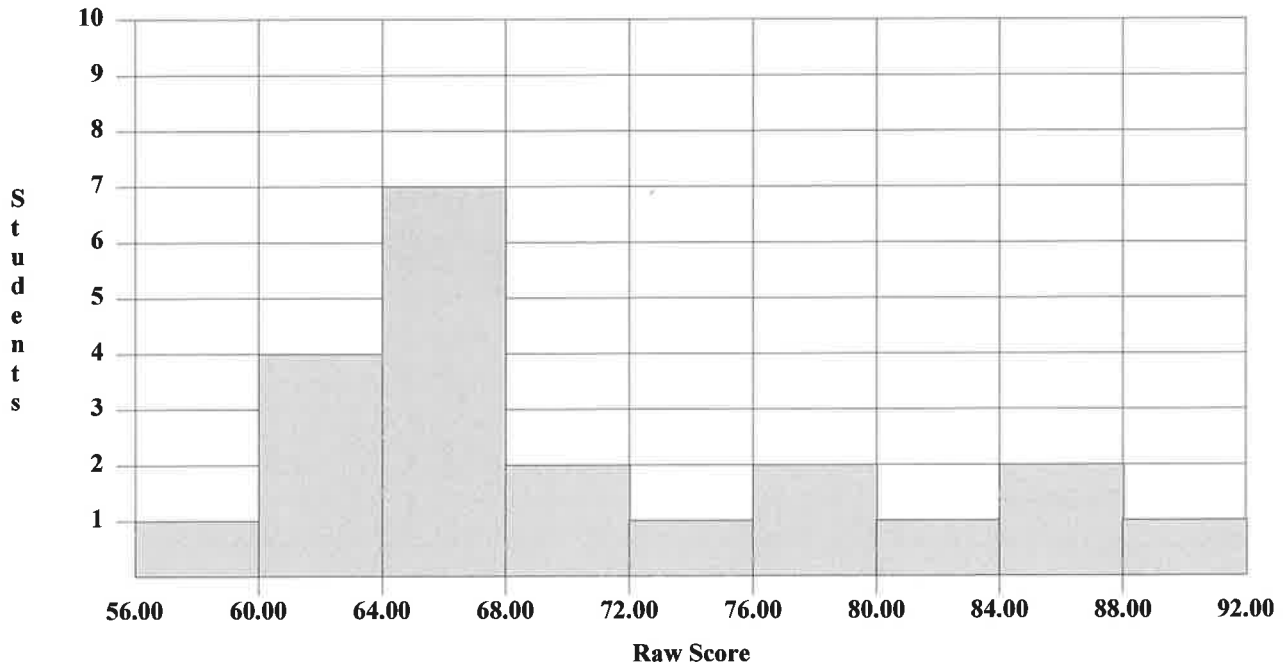
Test version: 0

Scoring Date: 3/22/2019

# of Students: 21

# M	Number Mastering	% M	% Mastering			PTS	Possible Points			
# PM	Number Partial Mastering	% PM	% Partial Mastering			HIGH	Highest Points			
# NM	Number Not Mastering	% NM	% Not Mastering			LOW	Lowest Points			
						AVG	Average Points			
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	9	12	0	42.86	57.14	0.00	16.00	15.00	8.00	11.38
Install Equipment	13	8	0	61.90	38.10	0.00	5.00	5.00	3.00	3.71
Perform Maintenance	12	8	1	57.14	38.10	4.76	20.00	18.00	6.00	13.81
Monitor, Eval, & Adjust Disinfection	10	9	2	47.62	42.86	9.52	11.00	11.00	3.00	7.19
Operate Equipment	12	9	0	57.14	42.86	0.00	18.00	16.00	9.00	12.76
System Information/Components	11	9	1	52.38	42.86	4.76	9.00	9.00	2.00	6.48
Laboratory Analysis	10	11	0	47.62	52.38	0.00	21.00	19.00	10.00	14.57

**TEST STATISTICS REPORT**  
**ABC Water Distribution Class II Exam**  
**ABC1017D**



<b>Test Name:</b>	<b>ABC1017D</b>	
<b>Test Date:</b>	<b>10/12/2012</b>	
<b>Number of Examinees:</b>	<b>21</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>88.00</b>	<b>(88.00)</b>
<b>Lowest Score:</b>	<b>56.00</b>	<b>(56.00)</b>
<b>Median:</b>	<b>66.00</b>	<b>(66.00)</b>
<b>Mean:</b>	<b>69.90</b>	<b>(69.90)</b>
<b>Standard Deviation:</b>	<b>9.62</b>	
<b>Test Reliability:</b>	<b>0.81</b>	
<b>Standard Error of Measurement:</b>	<b>4.14</b>	

**MASTERY SUMMARY REPORT**  
for ABC Water Distribution Class III

Test Name: ABC1018D

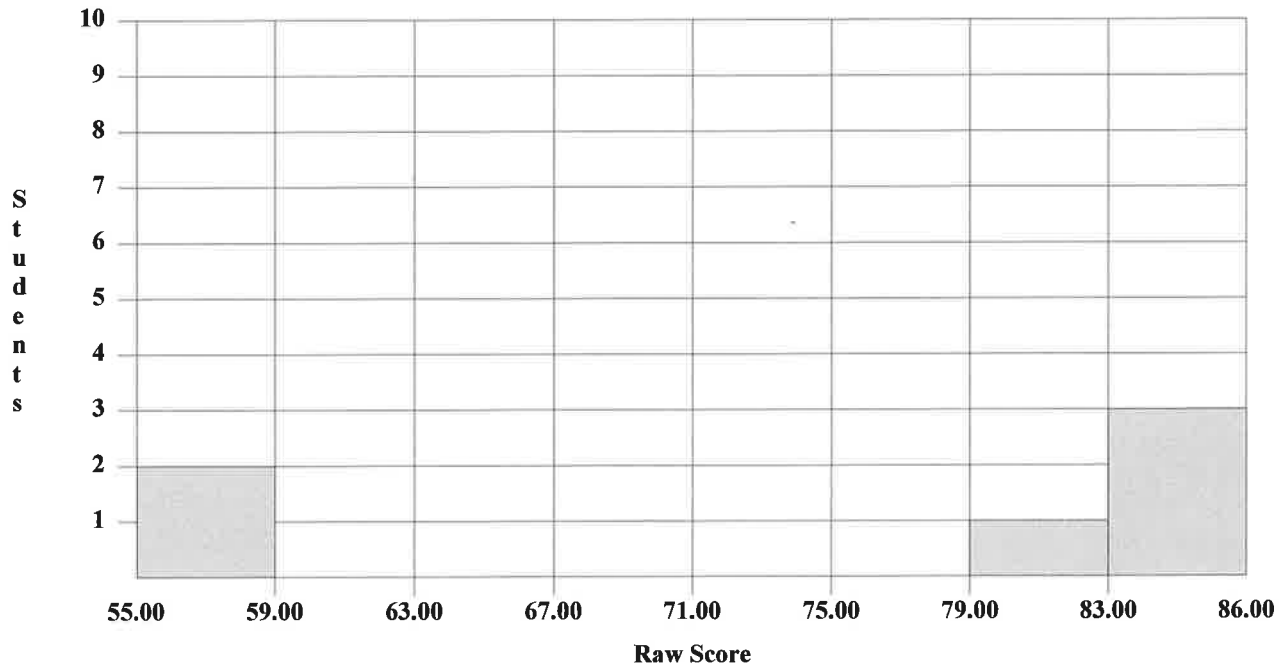
Test version: 0

Scoring Date: 3/22/2019

# of Students: 6

# M	Number Mastering	% M	% Mastering				PTS	Possible Points		
# PM	Number Partial Mastering	% PM	% Partial Mastering				HIGH	Highest Points		
# NM	Number Not Mastering	% NM	% Not Mastering				LOW	Lowest Points		
							AVG	Average Points		
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	3	3	0	50.00	50.00	0.00	17.00	14.00	11.00	11.83
Install Equipment	4	2	0	66.67	33.33	0.00	5.00	5.00	2.00	3.83
Perform Maintenance	4	2	0	66.67	33.33	0.00	20.00	19.00	8.00	15.00
Monitor, Eval, & Adjust Disinfection	5	1	0	83.33	16.67	0.00	10.00	9.00	6.00	7.67
Operate Equipment	5	1	0	83.33	16.67	0.00	18.00	18.00	12.00	14.67
System Information/Components	3	2	1	50.00	33.33	16.67	9.00	7.00	2.00	5.67
Laboratory Analysis	4	1	1	66.67	16.67	16.67	21.00	19.00	6.00	15.17

**TEST STATISTICS REPORT**  
**ABC Water Distribution Class III Exam**  
**ABC1018D**



<b>Test Name:</b>	<b>ABC1018D</b>	
<b>Test Date:</b>	<b>10/12/2012</b>	
<b>Number of Examinees:</b>	<b>6</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>86.00</b>	<b>(86.00)</b>
<b>Lowest Score:</b>	<b>55.00</b>	<b>(55.00)</b>
<b>Median:</b>	<b>81.00</b>	<b>(81.00)</b>
<b>Mean:</b>	<b>73.83</b>	<b>(73.83)</b>
<b>Standard Deviation:</b>	<b>14.01</b>	
<b>Test Reliability:</b>	<b>0.92</b>	
<b>Standard Error of Measurement:</b>	<b>4.01</b>	

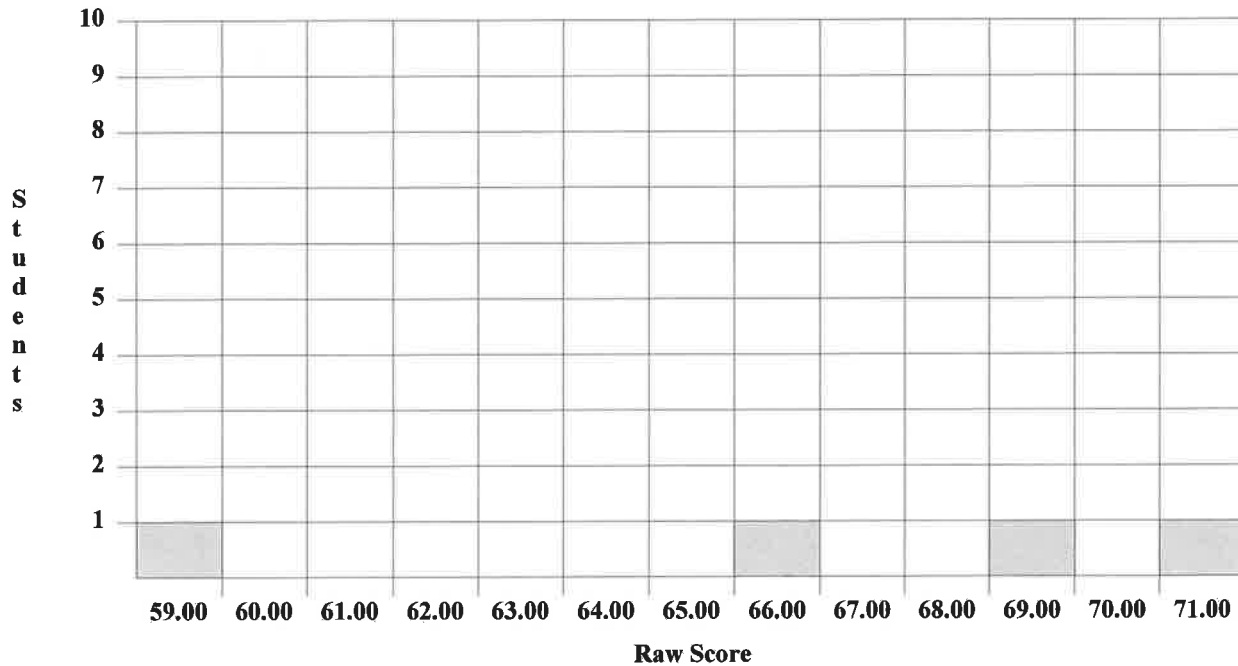
**MASTERY SUMMARY REPORT**  
for ABC Water Distribution Class IV

Test Name: ABC1019D  
Scoring Date: 3/22/2019

Test version: 0  
# of Students: 4

# M	Number Mastering	% M	% Mastering	PTS	Possible Points					
# PM	Number Partial Mastering	% PM	% Partial Mastering	HIGH	Highest Points					
# NM	Number Not Mastering	% NM	% Not Mastering	LOW	Lowest Points					
				AVG	Average Points					
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	4	0	0	100.00	0.00	0.00	17.00	13.00	12.00	12.50
Install Equipment	1	3	0	25.00	75.00	0.00	5.00	4.00	2.00	3.00
Perform Maintenance	1	3	0	25.00	75.00	0.00	21.00	16.00	13.00	14.25
Monitor, Eval, & Adjust Disinfection	2	2	0	50.00	50.00	0.00	10.00	9.00	4.00	6.50
Operate Equipment	0	4	0	0.00	100.00	0.00	18.00	12.00	8.00	10.25
System Information/Components	4	0	0	100.00	0.00	0.00	9.00	9.00	7.00	7.75
Laboratory Analysis	0	4	0	0.00	100.00	0.00	20.00	13.00	10.00	12.00

**TEST STATISTICS REPORT**  
**ABC Water Distribution Class IV Exam**  
**ABC1019D**



<b>Test Name:</b>	<b>ABC1019D</b>	
<b>Test Date:</b>	<b>10/12/2012</b>	
<b>Number of Examinees:</b>	<b>4</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>71.00</b>	<b>(71.00)</b>
<b>Lowest Score:</b>	<b>59.00</b>	<b>(59.00)</b>
<b>Median:</b>	<b>67.50</b>	<b>(67.50)</b>
<b>Mean:</b>	<b>66.25</b>	<b>(66.25)</b>
<b>Standard Deviation:</b>	<b>5.25</b>	
<b>Test Reliability:</b>	<b>0.33</b>	
<b>Standard Error of Measurement:</b>	<b>4.30</b>	

**MASTERY SUMMARY REPORT**  
for ABC Water Treatment Class I

Test Name: ABC1266W

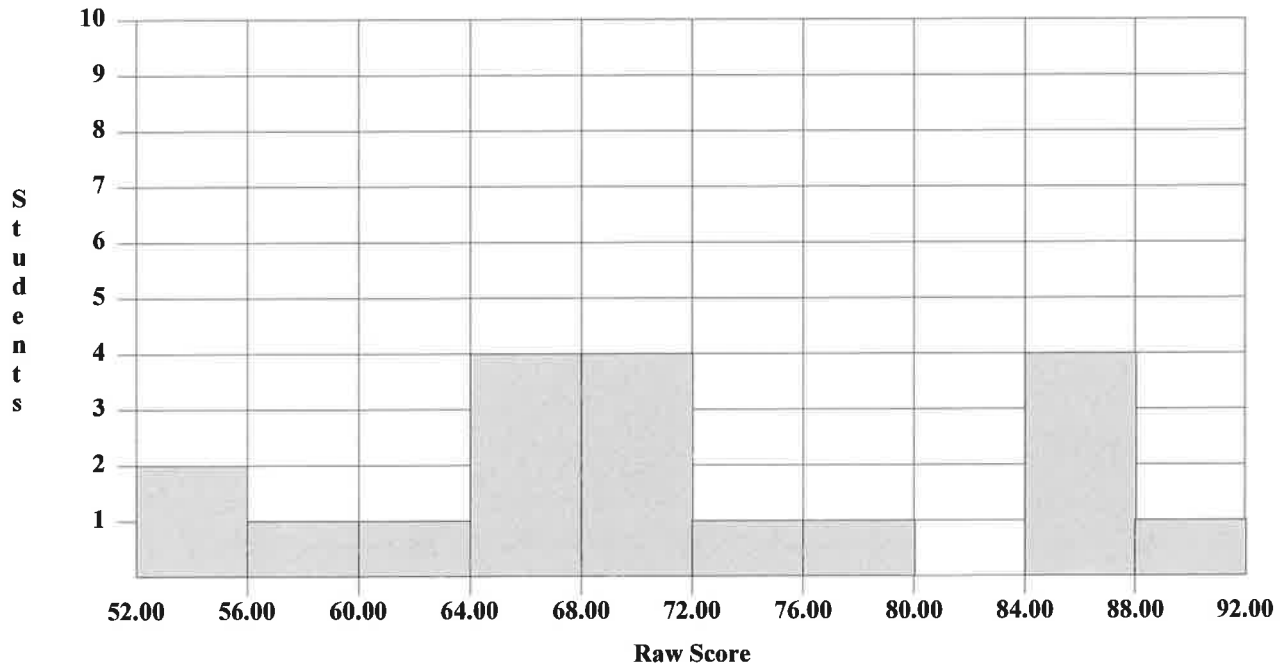
Test version: 0

Scoring Date: 3/22/2019

# of Students: 19

# M	Number Mastering	% M	% Mastering	PTS	Possible Points					
# PM	Number Partial Mastering	% PM	% Partial Mastering	HIGH	Highest Points					
# NM	Number Not Mastering	% NM	% Not Mastering	LOW	Lowest Points					
				AVG	Average Points					
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	11	8	0	57.89	42.11	0.00	13.00	11.00	6.00	9.21
Laboratory Analyses	13	6	0	68.42	31.58	0.00	12.00	12.00	6.00	9.26
Comply w/ Drinking Water Regs	8	10	1	42.11	52.63	5.26	12.00	12.00	4.00	7.79
Operate & Maintain Equipment	10	8	1	52.63	42.11	5.26	27.00	24.00	10.00	18.63
Eval Characteristics of Source Water	11	8	0	57.89	42.11	0.00	6.00	6.00	3.00	4.79
Monitor, Eval, & Adjust Treatment	13	5	1	68.42	26.32	5.26	30.00	27.00	11.00	21.32

**TEST STATISTICS REPORT**  
**ABC Water Treatment Class I Exam**  
**ABC1266W**



<b>Test Name:</b>	<b>ABC1266W</b>	
<b>Test Date:</b>	<b>10/12/2012</b>	
<b>Number of Examinees:</b>	<b>19</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>88.00</b>	<b>(88.00)</b>
<b>Lowest Score:</b>	<b>52.00</b>	<b>(52.00)</b>
<b>Median:</b>	<b>70.00</b>	<b>(70.00)</b>
<b>Mean:</b>	<b>71.00</b>	<b>(71.00)</b>
<b>Standard Deviation:</b>	<b>11.18</b>	
<b>Test Reliability:</b>	<b>0.87</b>	
<b>Standard Error of Measurement:</b>	<b>4.08</b>	



**MASTERY SUMMARY REPORT**  
for ABC Water Treatment Class II

Test Name: ABC1042W

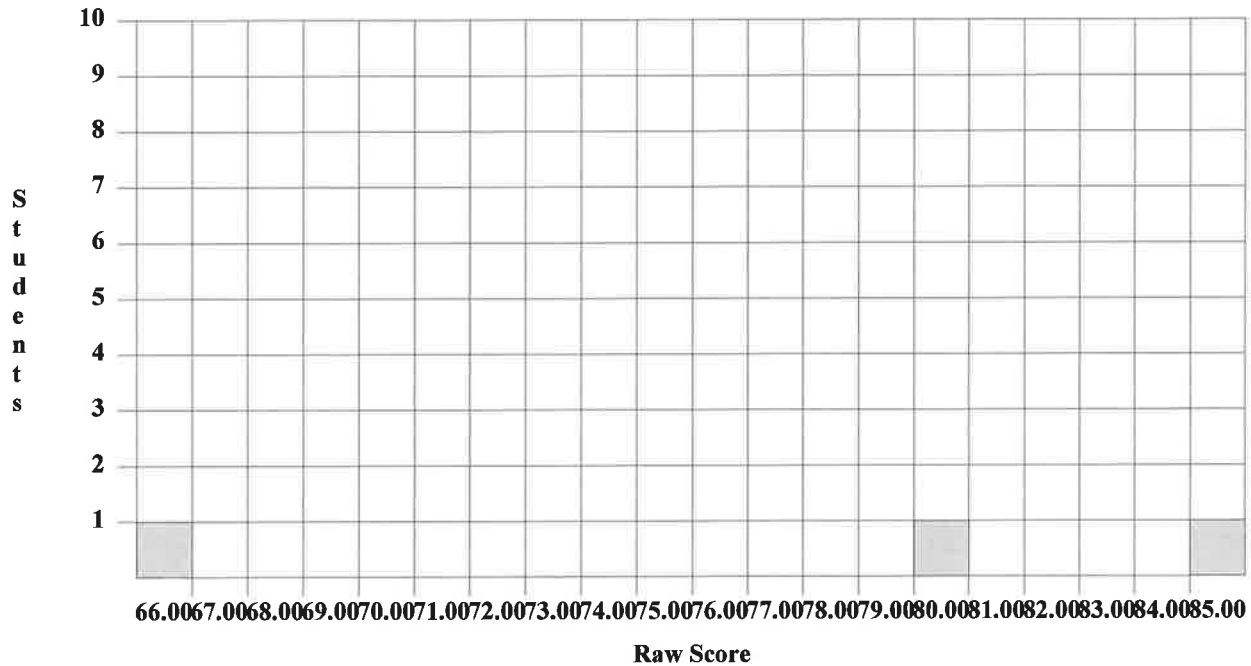
Test version: 0

Scoring Date: 3/22/2019

# of Students: 3

# M	Number Mastering	% M	% Mastering	PTS	Possible Points					
# PM	Number Partial Mastering	% PM	% Partial Mastering	HIGH	Highest Points					
# NM	Number Not Mastering	% NM	% Not Mastering	LOW	Lowest Points					
				AVG	Average Points					
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	3	0	0	100.00	0.00	0.00	16.00	13.00	13.00	13.00
Laboratory Analyses	0	3	0	0.00	100.00	0.00	13.00	8.00	7.00	7.33
Comply w/ Drinking Water Regs	3	0	0	100.00	0.00	0.00	12.00	12.00	9.00	11.00
Operate & Maintain Equipment	3	0	0	100.00	0.00	0.00	26.00	24.00	19.00	21.33
Eval Characteristics of Source Water	3	0	0	100.00	0.00	0.00	5.00	5.00	4.00	4.67
Monitor, Eval, & Adjust Treatment	2	1	0	66.67	33.33	0.00	28.00	23.00	14.00	19.67

**TEST STATISTICS REPORT**  
**ABC Water Treatment Class II Exam**  
**ABC1042W**



<b>Test Name:</b>	<b>ABC1042W</b>	
<b>Test Date:</b>	<b>4/14/2011</b>	
<b>Number of Examinees:</b>	<b>3</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>85.00</b>	<b>(85.00)</b>
<b>Lowest Score:</b>	<b>66.00</b>	<b>(66.00)</b>
<b>Median:</b>	<b>80.00</b>	<b>(80.00)</b>
<b>Mean:</b>	<b>77.00</b>	<b>(77.00)</b>
<b>Standard Deviation:</b>	<b>9.85</b>	
<b>Test Reliability:</b>	<b>0.85</b>	
<b>Standard Error of Measurement:</b>	<b>3.76</b>	

**MASTERY SUMMARY REPORT**  
for ABC Water Treatment Class III

Test Name: ABC1043W

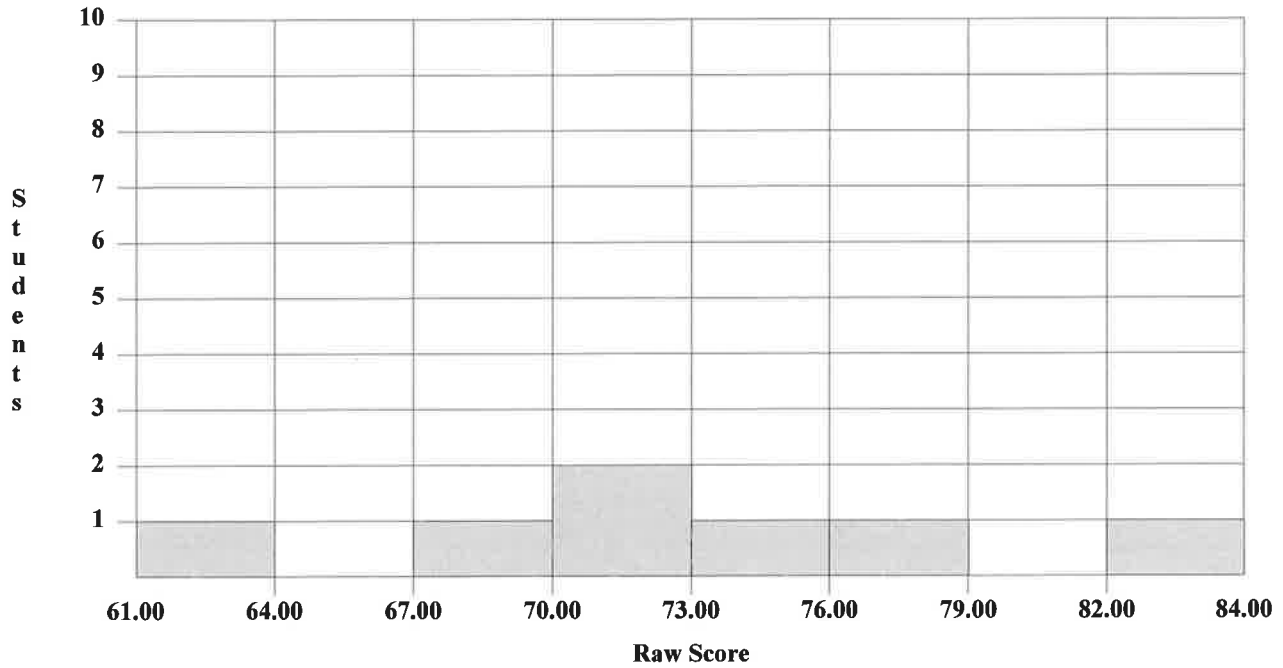
Test version: 0

Scoring Date: 3/22/2019

# of Students: 7

# M	Number Mastering	% M	% Mastering				PTS	Possible Points		
# PM	Number Partial Mastering	% PM	% Partial Mastering				HIGH	Highest Points		
# NM	Number Not Mastering	% NM	% Not Mastering				LOW	Lowest Points		
							AVG	Average Points		
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	7	0	0	100.00	0.00	0.00	18.00	18.00	13.00	14.43
Laboratory Analyses	1	6	0	14.29	85.71	0.00	11.00	11.00	6.00	7.14
Comply w/ Drinking Water Regs	6	1	0	85.71	14.29	0.00	11.00	10.00	6.00	8.71
Operate & Maintain Equipment	5	2	0	71.43	28.57	0.00	24.00	20.00	16.00	18.43
Eval Characteristics of Source Water	4	3	0	57.14	42.86	0.00	5.00	5.00	3.00	3.86
Monitor, Eval, & Adjust Treatment	1	6	0	14.29	85.71	0.00	31.00	25.00	13.00	19.57

**TEST STATISTICS REPORT**  
**ABC Water Treatment Class III Exam**  
**ABC1043W**



<b>Test Name:</b>	<b>ABC1043W</b>	
<b>Test Date:</b>	<b>10/12/2012</b>	
<b>Number of Examinees:</b>	<b>7</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>84.00</b>	<b>(84.00)</b>
<b>Lowest Score:</b>	<b>61.00</b>	<b>(61.00)</b>
<b>Median:</b>	<b>71.00</b>	<b>(71.00)</b>
<b>Mean:</b>	<b>72.14</b>	<b>(72.14)</b>
<b>Standard Deviation:</b>	<b>7.17</b>	
<b>Test Reliability:</b>	<b>0.71</b>	
<b>Standard Error of Measurement:</b>	<b>3.89</b>	

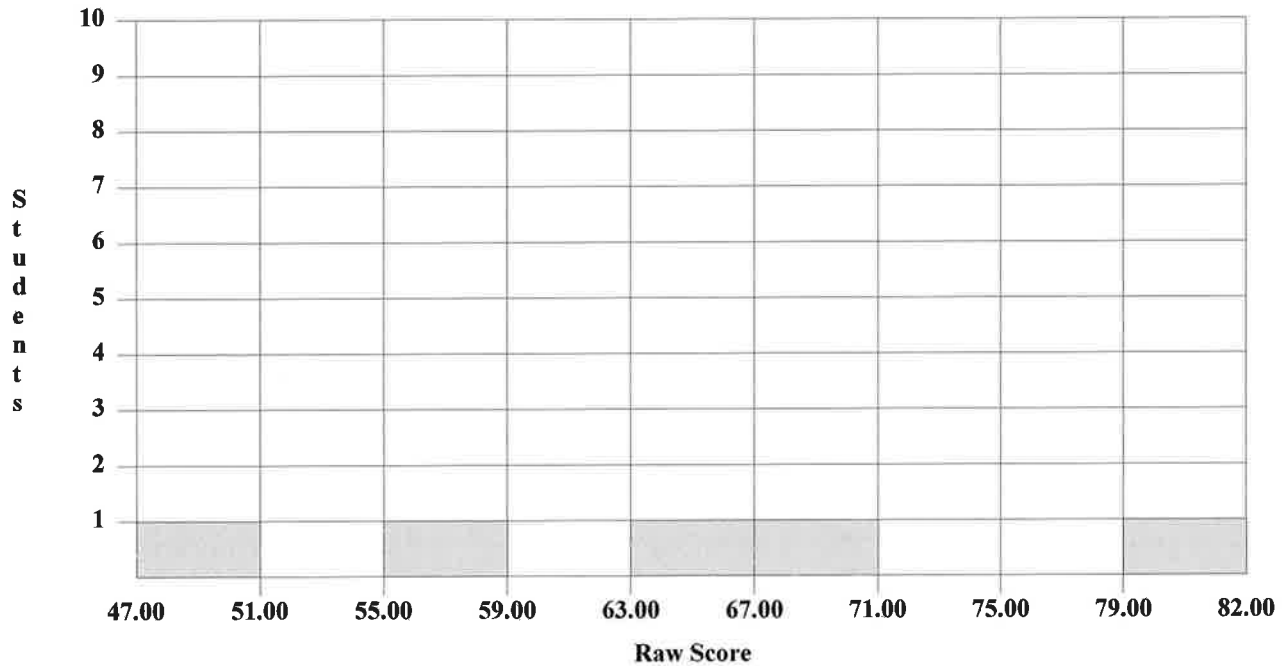
**MASTERY SUMMARY REPORT**  
for ABC Water Treatment Class IV

Test Name: ABC1044W  
Scoring Date: 3/22/2019

Test version: 0  
# of Students: 5

# M	Number Mastering	% M	% Mastering				PTS	Possible Points		
# PM	Number Partial Mastering	% PM	% Partial Mastering				HIGH	Highest Points		
# NM	Number Not Mastering	% NM	% Not Mastering				LOW	Lowest Points		
							AVG	Average Points		
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	3	2	0	60.00	40.00	0.00	18.00	15.00	10.00	12.80
Laboratory Analyses	1	4	0	20.00	80.00	0.00	11.00	11.00	5.00	7.40
Comply w/ Drinking Water Regs	3	2	0	60.00	40.00	0.00	10.00	8.00	4.00	6.40
Operate & Maintain Equipment	1	3	1	20.00	60.00	20.00	25.00	21.00	8.00	14.80
Eval Characteristics of Source Water	3	0	2	60.00	0.00	40.00	5.00	4.00	1.00	2.80
Monitor, Eval, & Adjust Treatment	2	3	0	40.00	60.00	0.00	31.00	27.00	14.00	19.40

**TEST STATISTICS REPORT**  
**ABC Water Treatment Class IV Exam**  
**ABC1044W**



<b>Test Name:</b>	<b>ABC1044W</b>	
<b>Test Date:</b>	<b>10/12/2012</b>	
<b>Number of Examinees:</b>	<b>5</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>82.00</b>	<b>(82.00)</b>
<b>Lowest Score:</b>	<b>47.00</b>	<b>(47.00)</b>
<b>Median:</b>	<b>64.00</b>	<b>(64.00)</b>
<b>Mean:</b>	<b>63.60</b>	<b>(63.60)</b>
<b>Standard Deviation:</b>	<b>13.01</b>	
<b>Test Reliability:</b>	<b>0.89</b>	
<b>Standard Error of Measurement:</b>	<b>4.22</b>	